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III.—*On the Yang-tsze-kiang.* By the Right Hon. Lord COLCHESTER and Capt. COLLINSON, R.N., C.B.

(Read March 22nd, 1847.)

[AMONG the important results attending the campaigns in China, may be ranked the knowledge obtained of the course of this magnificent river from the sea to Nanking. In the autumn of 1840, Capt. Bethune, in H. M. S. 'Conway,' with the 'Algerine,' Capt. Mason, and the 'Young Hebe,' was directed by Admiral Elliot to explore the entrance of the Yang-tsze-kiang: a service of peculiar difficulty, which he effectively performed in the months of July, August, and September; and penetrated as high as Fuhshan, 80 miles from its mouth. The task of conducting the fleet up the river in 1842, was intrusted by Sir W. Parker to Captains Kellett and Collinson; who subsequently, with the assistance of Lieut. Hewett, I. N., completed the survey from Nanking to the sea.

The first portion of this memoir is the result of the labours of these officers; the latter part is from an account drawn up by Lord Colchester, who accompanied the embassy of Lord Amherst in 1816, and was by him directed to make a sketch of that portion of the river which the embassy ascended from Kwachow, at the outlet of the Grand Canal, to the Poyang lake, with such observations as the jealousy of the Chinese would permit.]

THE embouchure of the Yang-tsze-kiang is about 60 miles wide at Tsung-ming island, between points Conway and Yang-tsze-kiang: it is divided into two branches by that island, which is entirely alluvial, being 30 miles long and 9 broad. It was formerly styled Kiang-she, or 'The Tongue of the River,' and was used as a place of banishment for criminals, by whom embankments were built; thus, from being a sandy desert, it became very fertile, and was established about the end of the last dynasty (A.D. 1600) as a "Heên," or district magistracy of the third class. The cotton-crops are very abundant, and the land is lightly taxed in consideration of the exertions made to recover it from the sea. There is also a manufactory of salt, and a large fishery.

The eastern end of the island (called by the Chinese Changshwuy, or Deep Water Point) is in lat. $31^{\circ} 29' N.$, and long. $121^{\circ} 51' E.$ from Greenwich, and is distant 15 miles from the southern bank of the river; the intervening space being much obstructed by sand-banks.

Twenty miles to the E. of Tsung-ming is the island of Shaweishan, which rises to the height of 196 feet above the sea; its geographical position being $31^{\circ} 25' N.$ and $122^{\circ} 14' E.$

The Amherst rocks and Ariadne reef lie to the southward of Shaweishan; the former, which is 10 feet above the sea at high-water, is in lat. $31^{\circ} 11' N.$, and long. $122^{\circ} 22' E.$ The latter has 3 feet water over it at low tide, and bears W. by S. $\frac{1}{4}$ S., $7\frac{1}{4}$ miles from the former.

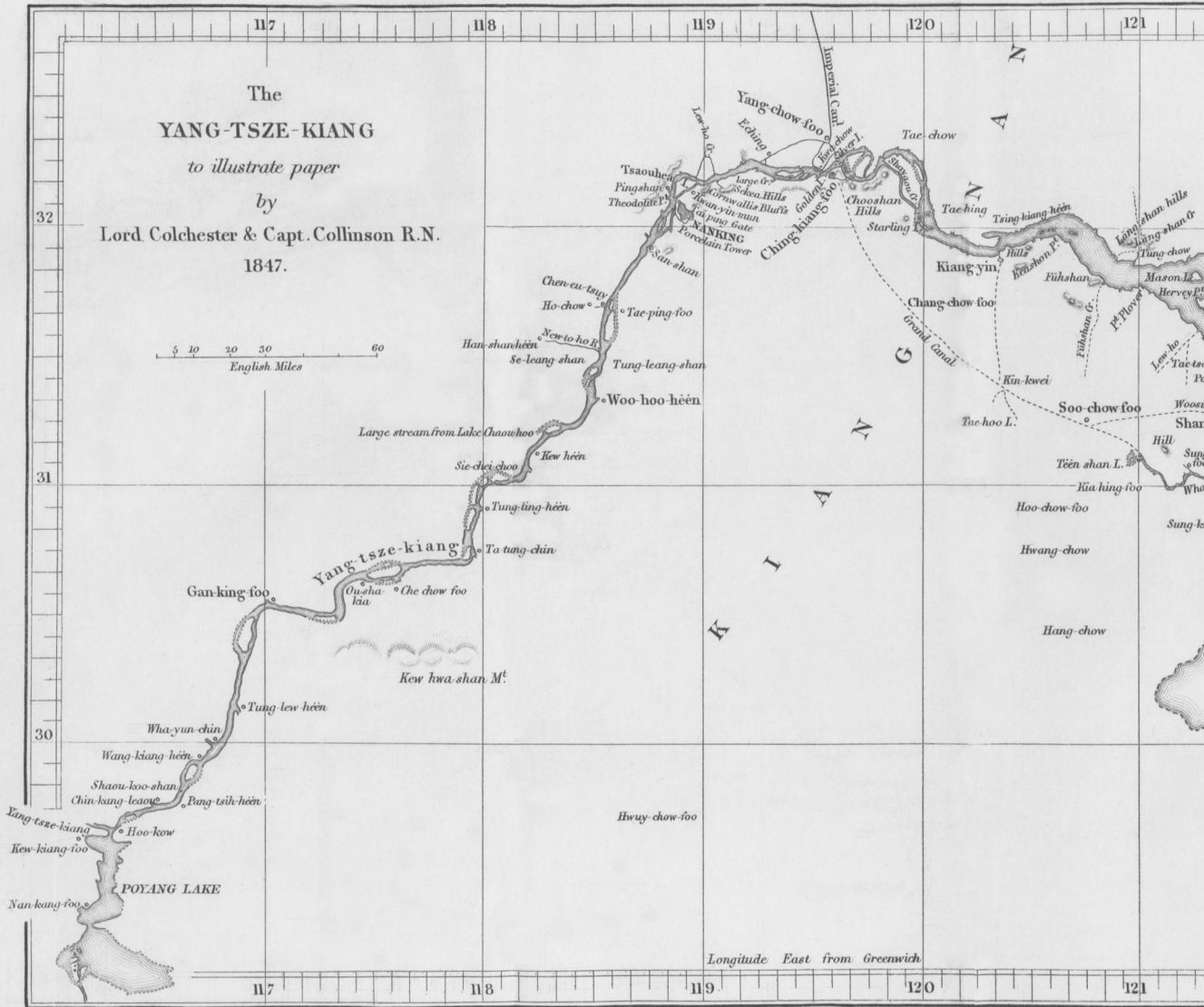
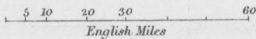
YANG-TSZE-KIANG

to illustrate paper

by

Lord Colchester & Capt. Collinson R.N.

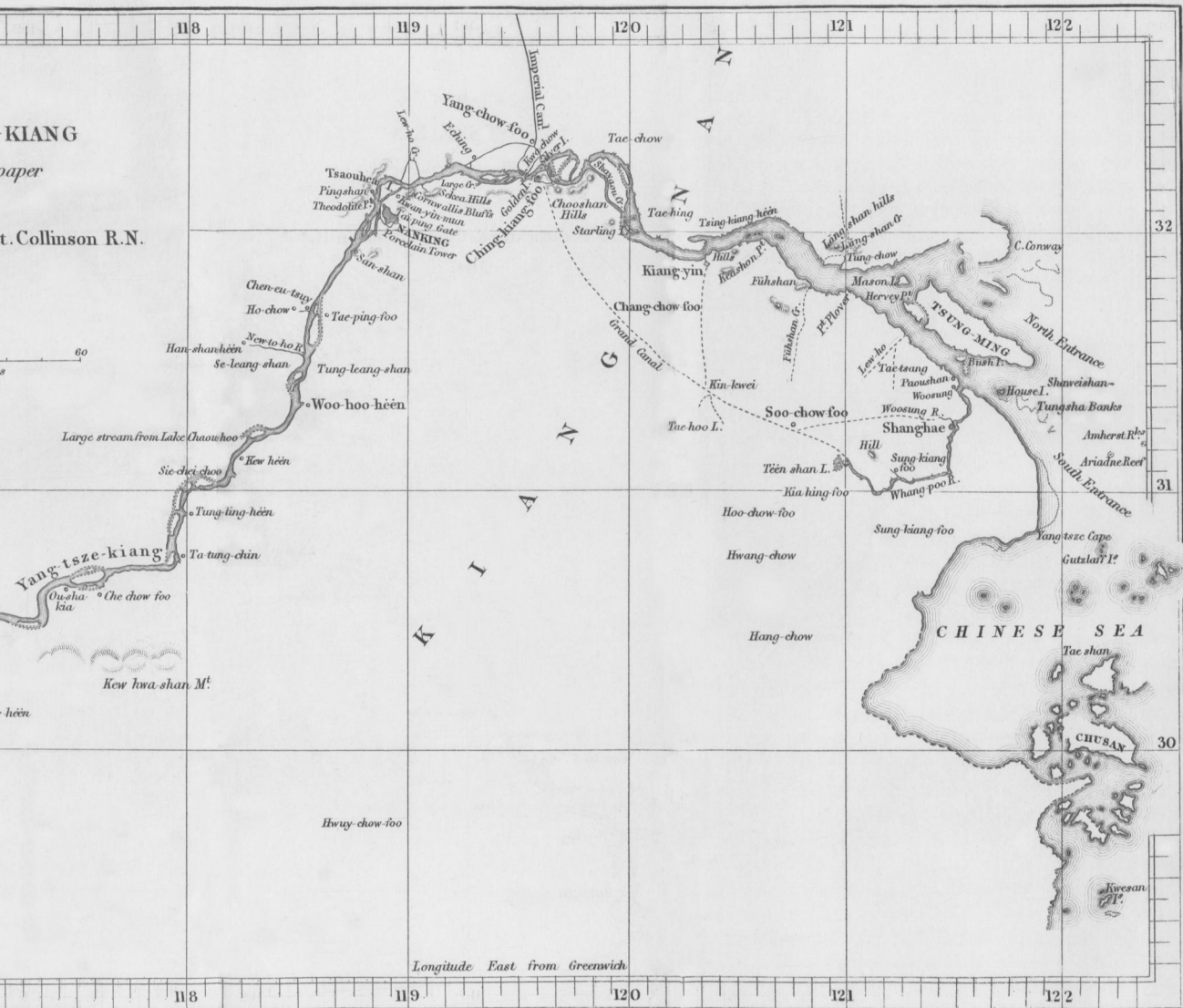
1847.



KIANG

paper

C. Collinson R.N.



Gutzlaff Island (210 feet high) lies 22 miles to the S. of these; its position being lat. $30^{\circ} 47' N.$ and long. $122^{\circ} 11' E.$ It is 17 miles from the southern cape of the Yang-tsze-kiang.

None of these islands or rocks are sufficiently large to afford protection in bad weather, and they are too far from the entrance to afford good leading marks over the bar, rendering the navigation somewhat difficult. Arrangements have been made for the erection of beacons to facilitate the navigation, and the Chinese Government have been induced to guarantee their being preserved. Keying also has come forward most handsomely, having ordered the expense of their erection to be borne by his Government. The most important channel into the river is along the southern bank, in which there is a depth of 24 feet at low water; its trend being N.W. $\frac{1}{2}$ W. 50 miles. The shoal water extends to seaward, opposite the southern cape of the Yang-tsze-kiang, which is called Tee-pan-yen-sha, or Hidden Sand, by the Chinese. On the northern side, two of the sand-banks, viz., House and Bush Islands, at the distance of 19 and 29 miles from the sand-heads, have, like Tsung-ming, been reclaimed from the sea, but at a more recent date. The Whangpoo (or, as it has been improperly called, the Woosung River) joins the Yang-tsze-kiang opposite Bush Island, being rather less than a mile wide at the junction; on the right is the walled town of Paoushan; the village of Woosung is upon the same side $2\frac{1}{2}$ miles farther up, and is a miserably dirty street, but derives its importance from being the custom-house, at which all the Chinese junks bound to Siam, Cochin-China, Singapore, &c. clear, both on arriving and departing.

Shanghae (in lat. $31^{\circ} 15' N.$, and long. $121^{\circ} 29' E.$) is on the left bank of the Whangpoo; the distance from Woosung by the river being 13 miles, and by land between 8 and 9. Shanghae is still called a hoo or lake. The image of the man who is said to have recovered it is preserved in the temples; and once a-year is borne round the walls, followed by a large portion of the population. This town, to which we have now access, and consequently uninterrupted water communication, by means of the Imperial Canal, with the northern provinces of the empire, has already more than fulfilled the eager anticipations of those who from the first took an interest in the place. Boats laden with cargo at Shanghae can communicate with eight different provinces, the most important, rich, and populous of the whole empire.

The facility of intercourse will, ere long, constitute this port a formidable rival to Canton; as there is not only the advantage of immediate communication with the Grand Canal, but we are also brought considerably nearer to those localities which produce the

staple articles of exportation, viz., tea and raw silk. Hoo-chow-foo, on the south-western bank of the Tae Hoo Lake, is the great centre for collecting the Nanking raw silk; it is reached from Shanghae in a dispatch-boat in 36 hours.

Hwuy-chow-foo, on the eastern side of the mass of hills, where the green teas are produced, is reached by easy water communication by boats laden with cargo in 10 days. The climate also being well adapted to European constitutions, and the intercourse with the natives being free from that ill-will which the Canton people appear determined to foster, will tend to render this a more favoured resort.

A plot of ground, with water-frontage, immediately N. of the city, has been allotted to foreigners; opposite to which vessels drawing 17 feet of water are enabled to anchor; and a custom-house for the especial use of the foreign trade has been erected in the immediate vicinity. (See note at the end of this paper.—Ed.)

Shanghae is a city of the third class, under the jurisdiction of a district magistrate; but in the city is the residence of a Taoutae, or Military Intendant of Circuit of the Departments of Soo-chow-foo, Sung-kiang-foo, and Tae-tsang-chow. This officer resides here in consequence of being *ex officio* the Comptroller of Maritime Customs of the province of Kiangnan; and consequently the superintendence of the trade with the western nations is under his control.

The Woosung river joins the Whangpoo to the N. of Shanghae, forming the northern boundary of the location allotted to us. By this river the grain junks go to the Great Canal, which it joins in the vicinity of Soo-chow-foo; a dispatch-boat can reach that city from Shanghae in 10 hours. The Taoutae once made a journey from Shanghae to Nanking in the winter in 9 days, as follows:—

By Water. From Shanghae to Soo-chow . . . 36 hours

” ” Soo-chow to Chin-kiang-foo 48 ”

By Land. From Chin-kiang-foo to Nanking . 14 ”

He was there during the day, and, starting in the evening, had a quicker return. The iron steam-vessels of the expedition pursued the course of the Whangpoo river, in a southerly and westerly direction, 40 miles beyond Shanghae, in the first 30 of which they had a depth of more than 4 fathoms; at the distance of 23 miles from the town on the left bank is a creek, the entrance to which was defended by a battery, and which leads in all probability to Sung-kiang-foo. The latter, which most likely will be found within a mile of the Whangpoo, is the chief city of the department: the country in the immediate vicinity of the river is a dead flat: the only hill visible, which is 6 miles from the banks here, is in lat. 31° 8' N., and long. 121° 7' E. Seventeen miles

beyond this creek they arrived at the T'een-shan lake, having first passed over a depth of 6 feet. Here the Whangpoo ceases, but the water-communication unites with the Grand Canal in the direction of Kea-hing-foo, and thence leads to Hang-chow-foo (the provincial city of the Che-kiang province), which can be reached in 30 hours from Shanghai.

The boats are very comfortably fitted up for the accommodation of passengers, and usually contain three apartments. The boatmen occupy a raised platform at the stern, and the universal mode of propulsion is the scull, at which from three to six men work; they are fitted with two taunt (tall) spars, which are stepped, like sheers, in a frame on the roof for hoisting a sail; and so arranged as to be easily let down, in order to pass under the bridges, the height of the arches being generally less than 8 feet from the water. Channels, into which the tide flows, intersect the country in all directions, forming the means of communication throughout the whole district.

The country on the eastern side of the Whangpoo partakes of the same character. Cotton is everywhere extensively cultivated, as the vicinity to the sea is supposed to improve its quality. That this tract has long been gained from the sea is proved by the fact of there being four walled towns on this side, and also by the size of the trees. A portion however (about 13 miles long and 2 wide) has been reclaimed more recently: and the land is still extending, affording, without the outer embankment, excellent pasturage for cattle; and *some carts*, almost the only ones we met with in the southern parts of the empire, were seen here.

The bunds, or embankments, which are 10 feet high and 20 broad, are vast monuments of the labour and industry of the inhabitants, and plainly prove the dense population of the district, which is amply corroborated by the constant succession of villages and hamlets.

Returning to the main river, its width opposite to the junction of the Whangpoo is 6 miles, with a depth of 8 and 9 fathoms.

Bush Island lies 5 miles N. of Paoushan Point; the navigable channel is, however, confined to 2 miles by sand-banks, through which there is a channel in the vicinity of House Islet, which is used by the junks trading to the northern ports or to Tsung-ming; in it there is a depth of $2\frac{1}{4}$ fathoms at low water; it is intricate, and by no means so eligible a channel to enter by as the southern one. The same may be said of those on the northern side of Tsung-ming, no less than 4 of which were explored, until a depth of less than 3 fathoms was attained. The difficulty of fixing the positions in a rapid exploring survey of this description, which must have been attended with great labour and anxiety, was, in some measure, obviated by having recourse to the

artificial horizon on the ship's deck at slack tide ; and is a useful hint to those who may be similarly situated in an enemy's country, without remarkable features to aid them, and with the natural horizon in that ill-defined state it usually is in the vicinity of large rivers.

Twelve miles to the N. of Tsung-ming is another large island, but of this portion, with the exception that you cannot enter the river on this side without passing over a depth of less than 18 feet at low-water, little is known. The junks, however, are numerous, and are seen at anchor among the shoals in all directions.

Between the Yang-tsze-kiang and the Whangho, or Yellow-River, there are 6 ports available for small vessels, and which communicate, according to the Chinese maps, with the Grand Canal, previous to its junction with the Yellow River ; but all the pilots who were questioned concerning the navigation of the latter, described it as impracticable, owing to the strong tides and shifting sands ; and that the junks, when opposite to its mouth, were compelled to stand far out to sea. At the mouth of the Yang-tsze-kiang the tide flows on full and change days until 12 o'clock, and the rise and fall is 15 feet. At Woosung the tides are 2 hours later, and the rise is 18 feet.

We left the main or S. branch of the river where the Whang Poo joins it, or 30 miles from the mouth ; the deep-water channel continues on that side 17 miles further ; and here is the confluence of the Lew-ho River, which is important, as it was deepened and made navigable direct to Soo-chow about 10 years since by the celebrated Commissioner Lin. Flowing from Soo-chow it forms a junction with the Woosung River at a place called Sha-ho ; and then passing the district towns of Kwān-shan and Sinyang (which are both contained within the same walls), and the departmental city of Tae-tsang, it reaches the Yang-tsze, being confined near the mouth by a dam, up which the boats are drawn by means of an inclined plane and capstans. The distances of these places from the river may be assumed as follows :—

Soo-chow	40 miles
Kwānshan and Sinyang	22 „
Tae-tsang-chow	14 „

The deep-water channel then takes a turn to the northward, passing close to Point Harvey (the western end of Tsung-ming, and named after a young midshipman of the 'Conway,' who was killed here in a skirmish with the Chinese, while landed with a foraging-party). Point Harvey is separated from Tsung-ming, and is called Chang-an-sha by the Chinese. N.W., 4 miles from it, is Mason Island (so called after the Commander of the

‘Algerine’), the channel between the two being 3 fathoms deep; and that between Mason Island and the N. side of the river 6 fathoms deep and 6 miles wide.

From Harvey Point the trend of the reach is W. by N. $\frac{1}{2}$ N., and 14 miles from it the river contracts its width to 5 miles, with a depth of 13 fathoms; this may be termed the throat: the distance from the sea in a straight line being 55 miles, and by the S. channel 70 miles. The flood here runs only 4 hours; and some hills begin to make their appearance: those on the N. bank have a pagoda on them, and are $3\frac{1}{2}$ miles from the river’s side. On the S. bank, and 8 miles inland, is another and larger range; and 9 miles above Point Plover (as the point on the southern side of the river at its throat has been termed) some low hills come down to the water’s edge, which are called Fŭhshan by the Chinese; and here is an important communication with the Grand Canal, affording the shortest access to the city of Soo-chow from the river, the distance being about 30 miles. The Fŭhshan creek, on its way to Soo-chow, passes through a walled town, which it divides into the districts of Chang-Jeuë and Chaou-Wăn; according to the Chinese maps, these are situated at the eastern foot of the hills mentioned in the last paragraph.

Thus far Capt. Bethune’s chart carried us, and we had now to grope our way where the officers of the Chinese empire had reported to their master it was impossible for us to go; and the only information for our guidance was the account of the visit of the pirate Coxinga: who, Le Compte informed us, “passed easily up to Nanking;” but at present the Chinese vessels of carriage do not enter the river, either because the mouth is choked up, or it is disused that the knowledge of it may by degrees be lost.*

The channel between Plover Point and Fŭhshan is along the southern bank, but at Fŭhshan it crosses over to the northern side of the river; and it was some time before a sufficient depth of water for the ‘Cornwallis’ and the larger transports was discovered. On our return down the river two months subsequently, the freshes had washed away many of the shoals, and a good channel was formed; so this portion of the river, from its constant changes, will probably be found the most difficult part of the navigation; the distance across is 12 miles, and the course about N.

Here, on the N. side of the river, is the mouth of the Lăngshan creek, which leads to the city of Tung-chow-foo (the capital of this department), and which will probably be found about 4 miles from the river; from it there is an inland water-communi-

* The sea-borne junks terminate their voyage at Fŭhshan.

cation northerly, which, passing within 30 miles of the coast, and communicating with the sea by six estuaries, forms an inland navigation to the eastward of the Grand Canal, which it joins at Wei-gan-foo; having first passed the towns of Jookaou and Yen-ching, whence it takes a westerly direction, crossing the N. head of the Shay-yang lake. Yen-ching, by the Chinese maps, appears to have an immediate communication with the sea by the Sin-yang creek, and will probably be found a large emporium, but difficult to be got at in consequence of the shoals.

Tung-chow-foo, however, is likely to become hereafter a favourable mart to foreigners, as thus far the tides—those aids to navigation in rivers—are felt. Keashan, which at first appears like an islet, is an isolated cliff on the S. shore, about 16 miles from Fühshan; the trend of the intervening coast being N.W., thence it runs W. by S. $\frac{1}{2}$ S., and at the distance of 7 miles the hills again approach the river.

The town of Kiang-yin is situated on the southern side of the river, and 116 miles from the mouth, being nearly environed by hills; a spur from which, stretching out into the river, narrows its width to little more than a mile, and affords an eligible position for defence.

Kiang-yin is a place of importance, and affords another communication with the Grand Canal at the district towns of Kin Kwei, and Woo-yang, which are situated at the N. end of the Tae-hoo lake. On the N. side of the river there is the district town of Tsing-kiang-hěen, situated close to the river's side, but was not perceived by us; it communicates with the eastern canal at Jookaou, and there is also a branch which runs westerly, nearly parallel to the river, to Taehing. The effect of the tide ceases to be felt here, there being no regular daily rise and fall or change in the direction of the stream.

The Yang-tsze, from Kiang-yin, takes a W. by N. direction; and 18 miles above the town is Starling Island, where the navigable portion of it becomes much confined, the deep water being close along its eastern shore.

The banks on the southern shore are low cliffs, with several large creeks communicating with the chief city of the department, Chang-chow-foo, situated on the Great Canal, and which will probably be found about 8 miles from the river. The N. shore, which is very little elevated above the river, abounds with rushes, and is intersected with creeks, some of which communicate with Tae-hing, a town of the third class, about 7 miles inland: and, if faith can be placed in the Chinese maps, affords another inland navigation, as channels branch off to Jookaou, on the eastern canal, and also to the city of Tae-hing, and from thence to the Imperial Canal. Starling Island is 5 miles long, and towards the

N. end is separated into 4 by narrow channels: opposite to the end of it, on the western side of the river, is Shayaou creek, which, after separating a large tract, communicates with the main branch 20 miles higher up; there is a depth of 3 fathoms throughout it. From this island the river trends N. 10 miles, the deep water being on the western side; it then takes a westerly turn, with a middle ground, a portion of which is dry when the river is low. Pursuing this course 8 miles it turns to the S., and the Chooshan hills, with a temple on their summit, will be seen extending their spurs into the eastern side of the river; from their summit a splendid *coup d'œil* of the whole country was obtained.

The Shayaou creek, mentioned above, joins the main river immediately to the N. of these hills. The course of the river to the W. of Chooshan is most curious, forming a circular basin about 9 miles in diameter, which, however, was nearly filled up by 6 islands. The navigation, notwithstanding, proved simple enough, as the deep water was found along the right bank of the river: but the strength of the current proved a serious obstacle, compelling us to wait several days for a slant of wind. Following the southern shore (which here presented a nearly continuous range of hills), at the distance of 12 miles the river took a sudden turn to the W., disclosing at once Kinshan, or Golden Island, with its handsome pagoda and beautiful buildings: attention, however, was first of all attracted by Silver Island, which lies exactly at the turn of the river, being separated from the southern bank by a channel 3 cables' length wide, through which the current was boiling with great rapidity. The temples on it are prettily situated, embosomed in trees, with which the islet is nearly covered; at the water's side was a spacious landing-place, ornamented with fantastic gateways, and on the main opposite, which was a precipitous cliff, was a broad flagged quay, affording the junks the means of tracking their way against a current which even the steam-vessels found a difficulty in stemming. Galleries were run along the face of the cliff, communicating with chambers hollowed out of the rock, the strange shaped peep-holes out of which afforded great amusement.

The reach now opening upon us took a W. by S. direction; and upon the southern shore, or right bank of the river, 2 miles above Silver Island, and about 600 yards from the water-side, appeared the walls of a city, which proved to be the one we were in search of, viz., Chin-kiang-foo. The opening of the Imperial Canal was not distinguished; but we discovered what pleased us nearly as much—large heaps of coal piled up by the water-side ready for our use. Some buildings also, totally unlike the Chinese style of architecture, and corresponding in some measure with our own, caught our attention, and proved afterwards to overlook the entrance to the canal.

The accompanying plan of the communications of the Imperial Canal with the river will show its connexion better than any description.

Chin-kiang-foo, known as well by the denomination of King-kow, or Mouth of the Capital, is the residence of the Intendant of Circuit of the Departments of Chin-kiang and Chang-chow. Here also is a Mwanchow Tartar garrison under the command of a Lieutenant-General.

Kinshan, or Golden Island, situated $1\frac{1}{2}$ mile west of the city, was found to be in lat. $32^{\circ} 13'$ N. and long. $119^{\circ} 31'$ E., 182 miles by the river, and 130 in a straight line from the sea; it is nearly in mid-channel, which is here three-quarters of a mile wide, and covered with trees and buildings (the tiles of which are gaudily glazed), and was pronounced by every one to merit its name.

The southern bank of the river is beautifully diversified by hills, with which the city is nearly surrounded: the N. shore presents nothing but a level plain, fringed towards the water with reeds, except to the N.W. of Golden Island, where low cliffs make their appearance. Here are the remains of the walled town of Kwachow, now nearly deserted, but through which the principal arm of the Imperial Canal passes. About 6 miles N. of it is the temple of Kaou-min-sze, in the angle formed by the division of the Imperial Canal into two branches,—one leading to Kwachow from Yangchow-foo, which is distant about 6 miles, and is the chief city of the department; and the other to Eching, beyond which it joins the Yang-tsze, forming the usual communication with Nanking. This temple* contains 200 priests, and within its enclosure stands a pagoda, ascended by 136 steps: from the top is an extensive view. To the N. is the city of Yangchow-foo, with its pagoda, surrounded by a level and well-wooded country, in many places inundated; † under foot are the gardens of the temple, containing artificial rocks and pieces of water: to the S. the branches of the canal wind their way to the Yang-tsze, that river itself, with the island of Kinshan, and an extensive range of high hills, bounding the view in that direction.

The surrounding country is cultivated with rice, beans, buckwheat, and Kaou-leang (a species of millet, from which is manufactured an ardent spirit) in small quantities; mulberry-trees, bamboos, the small-leaved elm, and other trees were observed.

Six miles west of Kwachow commences a low island, separated from the N. bank of the river by a channel about the breadth of the Thames at Richmond; it is 5 miles long, low and flat, chiefly covered with tall reeds, used by the Chinese for embankments. The main body of the fleet passed on the southern side of it, the northern channel having only 15 feet in some places.

* Sir G. Staunton.

† Possibly rice-fields.

Opposite to its west end, on the southern shore, is a large creek, which will probably form another island, and communicate with the main river near the Sekea hills, thus giving the boats an opportunity of escaping the strong stream in the main branch, which generally runs 3, and sometimes attains a velocity of 5, knots per hour. Our large Chinese chart, which would probably have set the question at rest, unfortunately does not extend to the westward of Chin-kiang-foo.

The mouths of the canals—for there are two of them which communicate with Eching, and thence join the Imperial Canal—are 13 and 14 miles from Golden Island, the river running due west.

We were now no longer in a “terra incognita,” having come, at Chin-kiang-foo, on the track of Lord Amherst’s embassy, and were supplied from the Hydrographic Office with a chart of this portion of the river by Lord Colchester, who accompanied that expedition.

Great numbers of vessels, of different construction, were lying in this channel: the salt-junks are very remarkable, being built nearly in the form of a crescent, the stern rising in some of them nearly 30 feet and the prow 20, while the mast is 90 feet high: * they are said to convey salt from the coast up the Chang-kiang (the conventional name applied to the Yang-tsze by the inhabitants), as high as the province of Hookwang; the return-cargo generally consisting of coal. They differ much in their build from the junks at Shanghae, and, not having been noticed at the latter place, are probably not permitted to pass lower down the river than Fühshan; many of them had chain-cables and iron anchors or grapnels.

The river beyond the West Eching creek takes a W.S.W. turn; 3 miles above it the most considerable range of hills we had hitherto seen on the N. side of the river, comes down to the water-side.

Seven miles further on the same side is the mouth of the Lewho creek, flowing into the Yang-tsze-kiang from the N.W. The pagoda of Lewho-liëen stands on a hill, 7 miles in the same direction. Immediately opposite, on the southern shore, are the Sekea hills, the highest of which is remarkable from two trees and a small joss-house on its summit, whence a fine view of the country was obtained, and the whole course of the river from Golden Island traced: on the N. shore another creek was seen joining the Lewho, one 3 miles S. of the pagoda, and running into the main river 5 miles further up: directly at the foot of the hill was a creek, which was traced so far in an easterly direction as to give rise to the surmise that it communicated again with the river, forming a large island.

* Sir G. Staunton.

To the westward the view was obstructed by numerous hills, which now rose on both sides of the Kiang, rendering it doubtful which way it would turn, and forming an agreeable change to the dull monotony of the level country we had hitherto been traversing.

Three and a half miles further, the river changed its course four points, the reach trending W.N.W., the force of the stream on the southern shore being turned by some bold red bluffs, which were named after the 'Cornwallis' (Sir W. Parker's flag-ship), in order to perpetuate the name of the first line-of-battle ship that penetrated thus far from the sea, and sailed farther from salt water than any of her predecessors, except those launched on the Canadian lakes.

Two miles from Cornwallis Bluff the island of Tsaouhea commences; it is nearly 7 miles in extent, being separated from the south shore by a channel 200 yards wide, with a depth of 5 and more fathoms.

The main branch, which is a mile wide, continues in a W.N.W. direction 5 miles from the bluff, and then takes a S.W. $\frac{1}{2}$ S. turn, the north-western shore being lined with hills, at the southern termination of which was a pagoda (Pingshan) and a small battery.

Supposing, from all accounts, that the city of Nanking was 3 miles inland, and deeming ourselves opposite to it, the two little surveying-vessels, 'Starling' and 'Plover,' were left here, and their captains returned in the iron steam-vessels to pilot the fleet up. In the interim, Lieut. Bate of the 'Plover' pushed his researches 3 miles further, and, coming upon the angle of a walled town, had the satisfaction of discovering that the flag-ship could be placed within 1300 yards of Nanking, the defences of which appeared well manned and armed, but, instead of interfering, or preventing his making a plan by which the 'Cornwallis' was conducted at once to her berth, they sent on board an officer with a present and a paper, which afterwards proved to be a proposal for peace.

Thus a river-navigation of 225 miles was concluded, 150 of which were previously unknown; and the fact that more than 70 sail of vessels penetrated thus far without encountering a disaster sufficient to render any one of them inefficient, will at once reflect creditably upon those who commanded, and, at the same time, prove the river admirably adapted for navigation.

The city of Nanking, at present called (officially) Kiangning, or the chief city of that department, is about 31,700 yards, or 18 English miles in circumference, being shaped something like a ham that has been cut in two different places; the knuckle, which is the northern end, being 500 yards from the water side, and nearly opposite the southern end of Tsaouhea island.

Commencing on the western side, the walls of the city, which

are generally above 40 feet high, take a S.E. by S. direction, enclosing some low hills; a canal or creek runs nearly parallel to the wall, in some cases approaching close to it; at its entrance on each side is a considerable suburb, some of the houses in which had more than two inches water on their floors during a fresh in August.

In an angle of the wall, and not quite a mile from the N. corner, is the Esung gate, which is little used, this portion of the city being but thinly inhabited. Two miles further the hills end, and the wall takes a S.E. direction. On this face are the Shiching and Sanshan gates, the whole length of the south-western side of the city being rather more than 9000 yards. This angle is thickly populated, and forms an area (exclusive of the Tartar portion) of about $9\frac{1}{2}$ English miles. The canal passes close under the corner of the wall, and there is a branch leading off to the westward, which communicates with the Kiang 4 miles to the S. of Tsaouhea island. The wall then turns to the E. by S. for 1600 yards, and nearly midway is the Tsupan gate, opposite to which, and on the western side of the canal, stands the celebrated porcelain tower: it is of nine stories and 260 feet high, with projecting balconies at each story, the balustrades of which, formed of stucco, are highly glazed in gaudy colours.

The view from the summit was exceedingly pleasing, as nearly the whole of the interior of the city could be traced, together with the adjacent country; the large tent-like roofs of the temples, and the curious gable-ends of the pawnbrokers' shops, shone out among the sea of houses below, which were so closely packed together that the streets could scarcely be traced. Towards the east end an inner wall was seen, separating the Tartar cantonment from the remainder of the city, and within this another enclosure, surrounded by water, which, from the size and appearance of the buildings within, was presumed to be an imperial residence. Directly underneath were the large court-yards and extensive temples of the monastery to which the tower belongs, with low undulating hills covered with copsewood in their rear.

Further to the E. was an extensive plain, crowded with hamlets and good country-houses, among which, and adding greatly to the beauty of the prospect, canals were seen in every direction. To the N.E. a high hill threw out its spurs until one of them almost protruded into the city; and at its base the mausoleum of the Ming dynasty, with its paved approach, guarded by colossal images of men and beasts, could be distinctly made out.

The wall takes an abrupt turn northerly 1700 yards, then easterly 2500 yards; in the retiring angle is the Thangsi gate, and here the Tartar city commences; then it pursues a N.N.E. course 2800 yards. On this side the canal, which has hitherto followed

the course of the wall, ceases, in the vicinity of the Chang-yan gate.

The N.E. face is irregular, running first N.E. 500 yards, and here the Tartar cantonment is again separated from the town by a wall running W.N.W. until it meets the other from the Thangsi gate; the whole area of the Tartar city being 11,200 yards. The outer wall then goes N. by E. 320 yards, W.N.W. 900, N. by E. 240, and N.N.E. 80, when we are at the N.E. corner, and opposite to the Changshan hills, the summit of which is crowned by a small white building, whence another bird's-eye view of the city and adjacent country is obtained.

The wall, which here is lofty (40 to 50 feet), turns to the westward, enclosing some low hills, and at 1000 yards is the Taiping gate, forming the principal thoroughfare from this side of the city, and whence a good paved road leads to Kwanyinmun, situate on the river's side, about 7 English miles distant, in the creek which forms the Tsauouhea island.

To the W. of the Taiping gate is a shallow sheet of water, along which the wall runs irregularly, first in a westerly, then in a northerly direction 5300 yards, and here is the Teshing gate; within this portion are isolated hills, with some temples upon them, but there are not many houses.

Pursuing an easterly direction 3700 yards, and N.W. by W. 1400, we arrive at the north end of the city, whence a S. by W. turn 700 yards brings us to the point from where we started.

Remains of an ancient wall encompassing the present city, and embracing an area of 28 English miles, were also traced, but in some instances the vestiges were difficult to detect, and it never appears to have been of the height, or built with the same solidity, as the other.

At Kwanyinmun there is a temple on a rocky promontory jutting out into the river, and there the gentlemen of the embassy appear to have landed, as Sir George Staunton mentions a large slab of black marble bearing an inscription, that many vessels having been lost in the eddies of the stream during the night beyond this point, this stone was erected in the seventh year of Keenlung, to advise and warn all persons to anchor here, so as to pass the next headland during daylight.

A range of hills commence at Kwanyinmun, and continue along the shore, facing the island of Tsauouhea until within a mile of Nanking. On the same side, and nearly opposite the S. end of this island (which was named Theodolite Point, and was determined to be in lat. $32^{\circ} 6' 20''$ N., and long. $118^{\circ} 52'$ E.), an ample store of coal was found.

The river opposite the city is without islands, and a mile and a half (English) across, with a depth of 25 fathoms and rocky bottom.

The current runs at the rate of from 3 to 5 knots per hour, rendering it necessary to steer the vessels while at anchor.

On the opposite or western bank an extensive wall was traced, probably enclosing the town of Pookeu.

The furthest point reached by the expedition was 13 miles above Nanking; where the river, having previously expanded to more than 3 miles, including the islands, which are flat and covered with rushes, again contracts between two headlands to a mile: that on the right bank is called Sanshan.

The 'Modeste,' Captain Watson, being detached here to interrupt the communication, witnessed the Chinese dredging for coal; the probabilities are, however, that it was not *in situ*, but the result of a wreck.

The climate of this part of China is said to have gradually become much colder in the twenty years preceding 1816; previously it had hardly ever been known to freeze or snow at Nanking, which it now (1816) does constantly every winter. The N.E. monsoon usually sets in before the middle of October. Chen-eu-tsuy, in lat. by observation $31^{\circ} 42' N.$, and about 30 miles from Nanking, is a small village on the left bank of the river at the mouth of a canal leading to the city of Ho-chow, a town standing on a rising ground about 3 miles from the river, and appeared to be a place of some trade. The river from Nanking to this place is wider than below, and nearly free from islands. About 11 miles above Chen-eu-tsuy, the Kiang receives the waters of the New-to-ho, a small river flowing from the W., and passing the city of Han-shan-hëen, about 15 miles from its mouth.

About 2 miles beyond the mouth of the New-to-ho are two remarkable rocky headlands, one on each side of the river, called Tung-leang-shan and Se-leang-shan (Eastern and Western Pillar Hill).*

The city of Woo-hoo-hëen, in lat. by observation $31^{\circ} 20' N.$, stands at a short distance from the right bank of the river; it is very populous, and appeared to carry on a greater trade than any other place seen by the embassy since entering the Kiang. The distance from Nanking to Woo-hoo-hëen by the river is about 50 miles. There are numerous islands in the river between Chen-eu-tsuy and Woo-hoo-hëen.†

About 15 miles above Woo-hoo-hëen a considerable stream joins the Kiang from the W., said to come from the lake Chaou-hoo.

Tung-ling-hëen is about 48 miles S.W. from Woo-hoo-hëen: though a city of the third class, it is small, the walls which surround it very low, the streets ill paved, and the shops inferior. It

* Se-leang-shan, about 500 feet high.—DAVIES.

† Large rafts of timber, with sheds erected upon them, dropped down the river by means of anchors; when seen at a distance they resemble small islands.—ELLIS.

stands in a beautiful country, consisting of a succession of hills covered with firs and small oaks, and valleys cultivated with cotton and buckwheat. The right bank of the river near Tung-ling-hëen was a steep rocky cliff of 50 to 100 feet. Nine miles beyond Tung-ling-hëen is the large village of Ta-tung-chin. The lat. was found by the mean of several meridian altitudes of the sun to be $30^{\circ} 45' N$. The tea-plant and tallow-tree were seen in this neighbourhood. To the S. is a high range of mountains called the Kew-hwa-shan. The course of the river continues interrupted by a series of islands, some highly cultivated, others producing reeds only.

Gan-king-foo, the capital of the province of Gan-hway, stands on the left bank of the river, which there flows nearly due E. : it is 66 miles from Tung-ling-hëen. It is large and populous, and seems to carry on a considerable trade ; near the eastern gate is a handsome pagoda of seven stories.

Tung-lew-hëen, about 24 miles S.S.W. from Gan-king-foo, stands on the right bank of the Kiang, at the mouth of a stream falling into the river from the S.E. The walls are extensive, but they contain a considerable quantity of vacant ground.

About 15 miles above Tung-lew-hëen is Wang-kiang-hëen, on the left bank of the river, on the border of the province of Kiang-se.

Eleven miles above Wang-kiang-hëen, and 3 miles below Pang-tüh-hëen, is the Shaou-koo-shan, a remarkable conical rock about 200 feet high, standing in the middle of the river. Its northern side, completely bare, and almost perpendicular, was covered by innumerable flocks of the Yu-ying, or fishing cormorant, but on the western side is a small monastery consisting of several buildings rising one above the other. The only ascent is by a flight of steps. Above the buildings is a grove of trees, and the summit is crowned by a temple of two stories, with projecting roofs. One of the boats being obliged to anchor above this rock, near the middle of the river, found the depth to be 14 feet.

Chin-kang-leao is a small village situated in an extensive plain on the left bank of the river. Its lat. by observation is $29^{\circ} 47'$ north.

About 10 miles above Chin-kang-leao is the small town of Hoo-kow-hëen, whose walls (like those of Pang-tüh-hëen) extend along the summits of the surrounding hills, enclosing much unoccupied ground. This city is built at the foot of a range of hills extending along the right bank of the river as far as Tung-lew-hëen. It is about 74 miles from Gan-king-foo, and 285 from Kwachow. At this place the Yang-tsze-kiang receives a considerable accession of water from the Poyang lake, the stream issuing from the lake appearing nearly equal in width to the river above the junction, each about a mile broad.

Soon after passing Ho-kow, the embassy quitted the Yangtsze-kiang, after having proceeded up it about 285 miles in the course of 26 days. That part of the river which they navigated flows in a N.E. direction, with a current of more than 2 miles an hour, till it meets the tide near Nanking. Its mean breadth is from a mile to a mile and a half, except where interrupted by islands; but in some places it expands to 3 miles. The islands are numerous, and in general flat, some highly cultivated, others covered with tall reeds, used for embankments or fuel. The country on the right bank of the river is mountainous, and in many places the hills are uncultivated, but on the left bank are extensive plains in the highest state of cultivation.

The great land-route from Canton to Peking crosses the Yangtsze-kiang by a ferry, not far above the confluence of the waters from the Poyang lake.

Note.—With reference to the Port of Shanghae, our present favourable position is mainly attributable to the firmness, discretion, and conciliatory bearing of Major Balfour, of the Madras Artillery, our Consul at this port from the period of its being thrown open for trade in November 1843 to September 1846.—Ed.

IV.—*Remarks on the Isthmus of Mount Athos.* By Lieut. T. SPRATT, of H.M.S. ‘Beacon.’ Communicated by Commander GRAVES, F.R.G.S.

[Read 9th March, 1846.]

IN the latter part of August 1838, I was sent by Commander Graves, in the ‘Beacon’s’ tender ‘Isabella,’ to measure across the Isthmus of Mount Athos, at the spot where the canal was cut by Xerxes. (Herodotus, vii. 22, &c.) The reason assigned by the historian for making this cut was the remembrance of the loss sustained by the fleet of Mardonius (B.C.) in attempting to navigate the shores of this mountainous peninsula. (Herod. vii. 22; vi. 44.)

As the examination of the remains of this work of Xerxes occupied part of my time during the survey of the Isthmus, I offer a few observations to explain the accompanying plan which was then made of it, the more particularly as the few remaining traces of this canal may have totally disappeared in another century, when the absence of such evidence might perhaps again produce doubts upon the truth of this historical record, such as have been expressed with regard to the veracity of Herodotus on this point, both in ancient and modern times. These doubts, however, as well as those of the eminent traveller Pococke, who is one of the sceptics of modern times, have been fully confuted by the testimony of Choiseuil Gouffier, Dr. Hunt, and Colonel Leake. A careful examination of the locality removes all doubt.